

and three well models are in the number of relays, internal piping, external ports and programming of the timer/controller.

Normal operation for C-Sparger™ systems includes carrying out, in series for each well, the following functions on a time basis: pumping air & ozone through Spargepoint diffusers into the soil formation, pumping aerated/ozonated water in the well into the soils and recovering treated water above. Treatment is followed by a programmable period of no external treatment and multiple wells are sequenced in turn. Agitation with pumped water disturbs the usually inverted cone-shaped path of bubbles through the soils and disperses them much more widely. This increases contact and greatly improves efficiency and speed of remediation. Vapor capture is not normally necessary.

Series 3500 and 3600 systems include a control Module (Box), one to three well assemblies depending on specific model selected, a 1-00 ft submersible pump power-gas line for each well, a flow meter (to check spargepoint flow rates). Model Series 3500 & 3600 Control Modules have been successfully deployed outdoors in benign and moderate environments for prolonged periods of time. The Control Module must be firmly mounted vertically on 4 x 4 posts or a building wall near the wells.

The actual placement depths, separations, number/size of wells and overall remediation system geometry are highly variable. Differences in specific pollutant, spill, soil, groundwater and climate characteristics can greatly influence the design and geometry of the overall remediation system. Monitoring wells are usually also needed. In short, specific circumstances and conditions are often critical, however, a generic or typical overall system is shown on Figure 1.

Figure 1. Table I provides the basic specification for the Series 3500 & 3600 systems. The drawing shows a single well system Series 3600 (M-3601). The Series 3500 does not have the lower Spargepoint Multiple well models (3502, 3503, 3602 & 3603) just replicate the well units using a single Control Module. Figure 2 shows a piping schematic and Figure 3 an electrical

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